Comment on the Proposed Additional Driveway for Access to the Proposed Building Garage at 420 Harvard Street within the JFK Crossing Neighborhood

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The proposed 6-story building with 36 units and 38 parking spaces facility will create several problems to the JFK Crossing neighborhood, such as motorist and pedestrian safety, architectural design, parking, traffic and building paring access, etc. And in this report only the two issues are discussed, traffic and building parking garage access:

Traffic

The proposed building parking access will significantly cause traffic delay and movement at the Center Street, the section of Fuller Street between Center and Harvard Streets and the intersection of Fuller and Harvard Streets, especially during the rush hours –

A. Existing Condition
   a. The portion of Fuller Street located between Center and Harvard Streets is a high traffic volume roadway section in this JFK neighborhood as it helps relieve some of the traffic congestions at Coolidge Corner, the Beacon and Harvard Street intersection as shown in Figure 1. For the inbound traffic on Beacon Street, making a left-turn onto Harvard Street is prohibited. Therefore, the motorists have to make a left-turn on Center Street, come to Fuller, make a right, and then make a left on Harvard Street to go to Allston, Cambridge and/or Mass Turnpike. For their return trip the motorists would take the reverse route in order to avoid the traffic at Coolidge Corner, even though it is allowed to make a right turn from Harvard onto Beacon Street.

   b. Fuller Street is an approximately 20-ft wide roadway barely fitting 2 lanes of traffic, one lane for each direction and there is no room to provide an additional lane for parking and any turning movement (See Figure 2).

   c. On the section of Fuller Street between Center and Harvard Streets there are 2 main driveways which are located only about 79 to 106-ft from the Fuller and Harvard Streets intersection (See Figure 2). The driveway on the west is for the existing parking lot (10 parking spaces) of the subject property and the other on the east is for the existing public parking lot which has 56 parking spaces. Like all driveway the entering and exiting traffic on each of these driveways have conflicts with the traffic on Fuller Street, especially the left-turn entering and exiting movements as shown in Figures 3A and 3B. Fortunately because there is a 27-ft separation between these two driveways to separate their influence zones, the impact of the conflicts is kept to an acceptable level of services for the through traffic and the traffic at the Fuller and Harvard intersection.

B. Conditions when a driveway is added on Fuller Street for the proposed building parking garage
   a. On the 8/10/2016 meeting the developer revised their building parking access and proposed two pairs of driveways next to each other as shown in Figure 4A (this sheet is the developer's proposed Drawing No. A101). The Pair 1 driveway is for the ground level parking for 10 spaces and the Pair 2 driveway is for the underground parking for 28 spaces. In Figure 4B the existing public parking lot on the other side of Fuller Street was added and it can be seen that Pair 1 driveway is approximately at the existing driveway location and Pair 2 driveway falls almost in line with the driveway for the existing public

parking lot on the other side and as a result, it creates a 4-way intersection. The additional driveway will introduce an additional conflict to the through traffic on Fuller Street. Research has shown that the increased number of conflict and a close spacing of driveways will increase the congestion on the roadway and cause longer delay to the through traffic and even translate into higher accident rates. And most of the severe conflicts will be caused by the left-turn movements because the turning vehicles have to cross the adjacent lane by interrupting the coming traffic. Figures 5 through 8 illustrate some of major conflicts. Figure 5 shows two left-turn vehicles from Fuller Street turning to the underground parking garage driveway and existing public parking lot driveway. The two turning vehicles following by a train of through traffic will be standing still next to each other and cause a major traffic jam because the influence zones of both driveways are overlapping. Figure 6 shows one left-turn vehicle from Fuller street to the underground parking garage driveway and one vehicle exits from the garage blocking the approached through traffic. And as result, they cause backing-up of the through traffic. Figure 7 shows the same left turning pattern for the existing public parking lot as those shown in Figure 6 but in a reverse direction. This pattern is currently existing and cause traffic delay in both directions. Figure 8 shows left-turn vehicles exit from the parking garage and the existing public parking lot and they cut off the traffic flow in order to get to the other side of the roadway.

b. To resolve the traffic conflict at these 2 driveways (one new driveway for the parking garage and one for the existing public parking lot) one possible solution is to install a 4-way traffic signal with left-turn arrows to regulate the traffic movements. However, providing a major traffic signal at less than half of a block from the existing signalized Fuller and Harvard Streets intersection in not acceptable because there is not sufficient distance provided between the two intersections. The stopping signal at one intersection will hold up the traffic and cause traffic backing-up all the way to the other intersection.

c. Besides the traffic issue the impact of the proposed two pairs of driveways to pedestrian safety is also a major concern. The two pairs of driveways will make up 43'-11" paved roadway which is more than twice of the width of Fuller Street. Asking the pedestrians to cross 4 lanes of traffic lanes would put them in a harmful situation, especially for the school children and the senior citizens living in this neighborhood. Another safety issue is that there is no refugee area (like an island) provided to separate the two pairs of driveways which is for the pedestrian to stop there after they have crossed one pair of driveway and look at both sides before they proceed on to the next one. And vertically Pair 2 driveway is on 16% grade with a 10-ft 8% grade transition at the top of the driveway. When exiting from the garage on such a steep ramp the motorist would not have clear view of the pedestrian on the sidewalk area and the approaching vehicle traffic on the street. In this situation, accidents are more likely to happen. In additional, the Pair 2 driveway will not be completely covered by the building above and will be subject to inclement weather. Motorists will have a difficult time in controlling their vehicles in exiting the ramp during the snowy season. Based on the traffic problems and the concern of motorists and pedestrian safety described above it is recommended that

the proposed additional driveway for accessing to the building's parking garage be rejected and other location be explored.

Conclusion:

1. The portion of Fuller Street between Center and Harvard Streets is a high traffic volume roadway section and the existing safety and mobility of the motorist and pedestrian traffic should be preserved at the current level and new access driveway should not be added.

2. The proposed location for the Pair 2 driveway tends to be problematic as it will impact safety of the motorists and pedestrian traffic on Fuller Street and cause traffic delay and congestion. Therefore, it is recommended that the proposal be rejected and other location be explored.

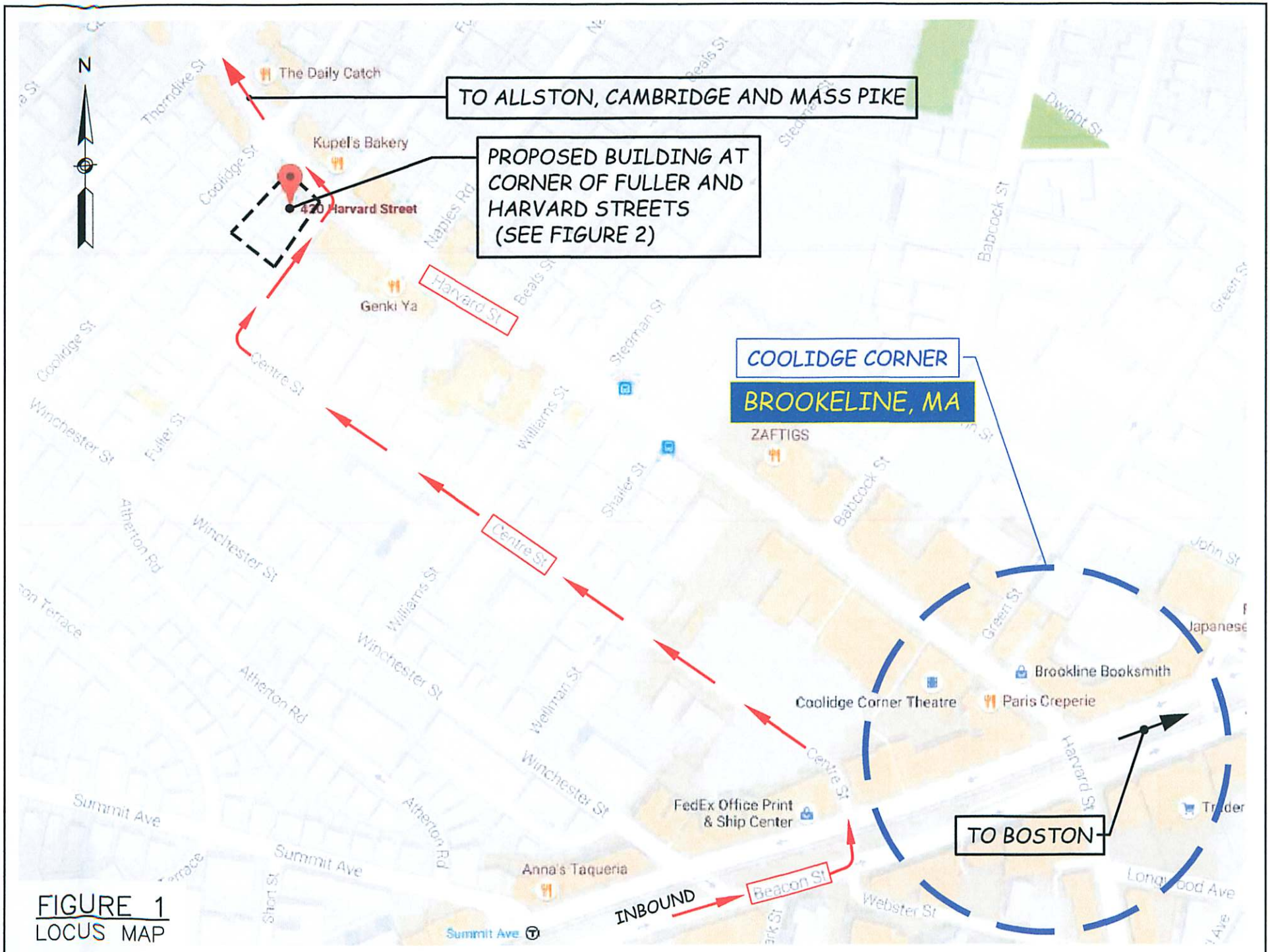

FIGURE 1
LOCUS MAP

FIGURE 2
PARKING

FIGURE 3A
PARKING

FIGURE 3B
PARKING

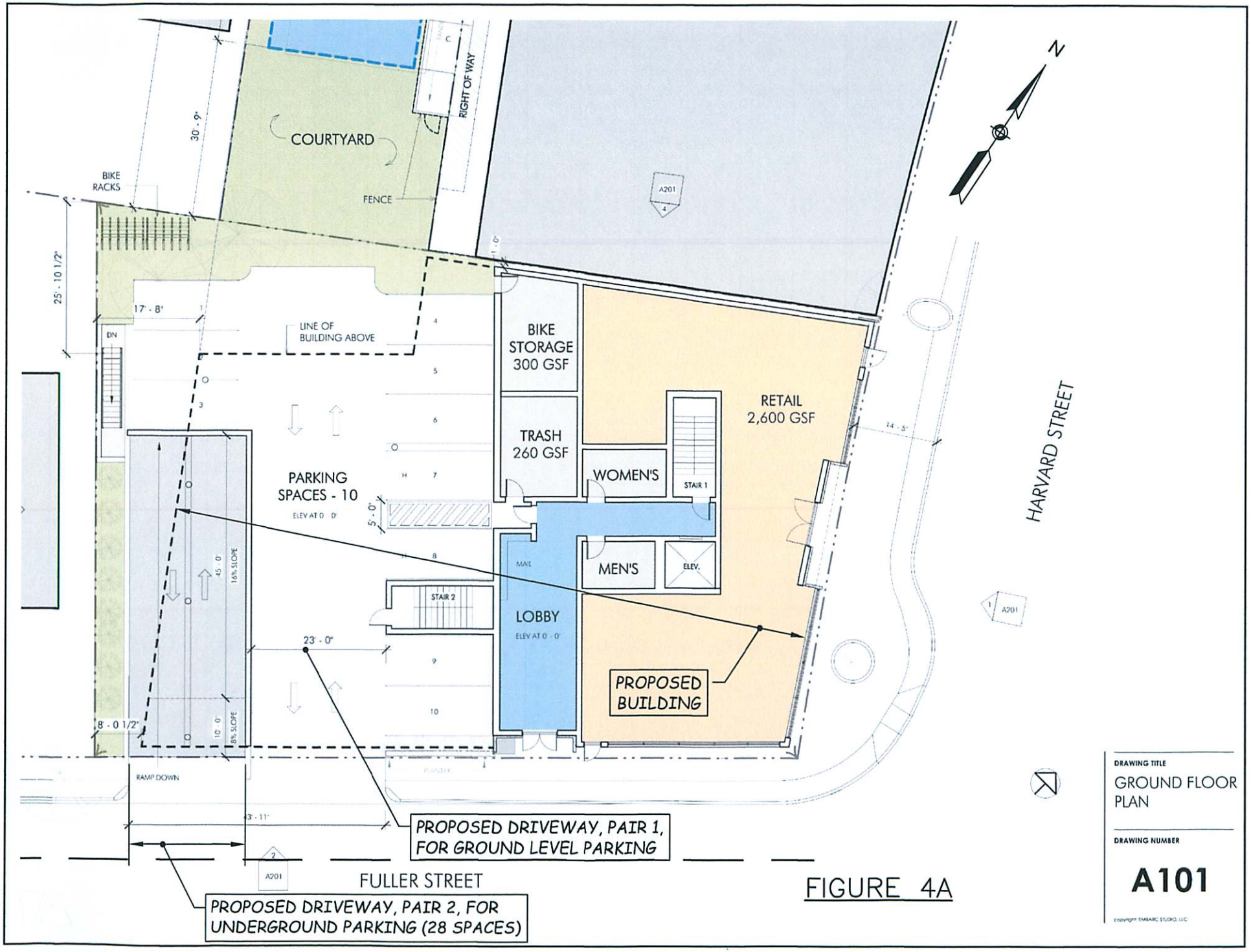

FIGURE 4A

DRAWING TITLE
GROUND FLOOR PLAN

DRAWING NUMBER
A101

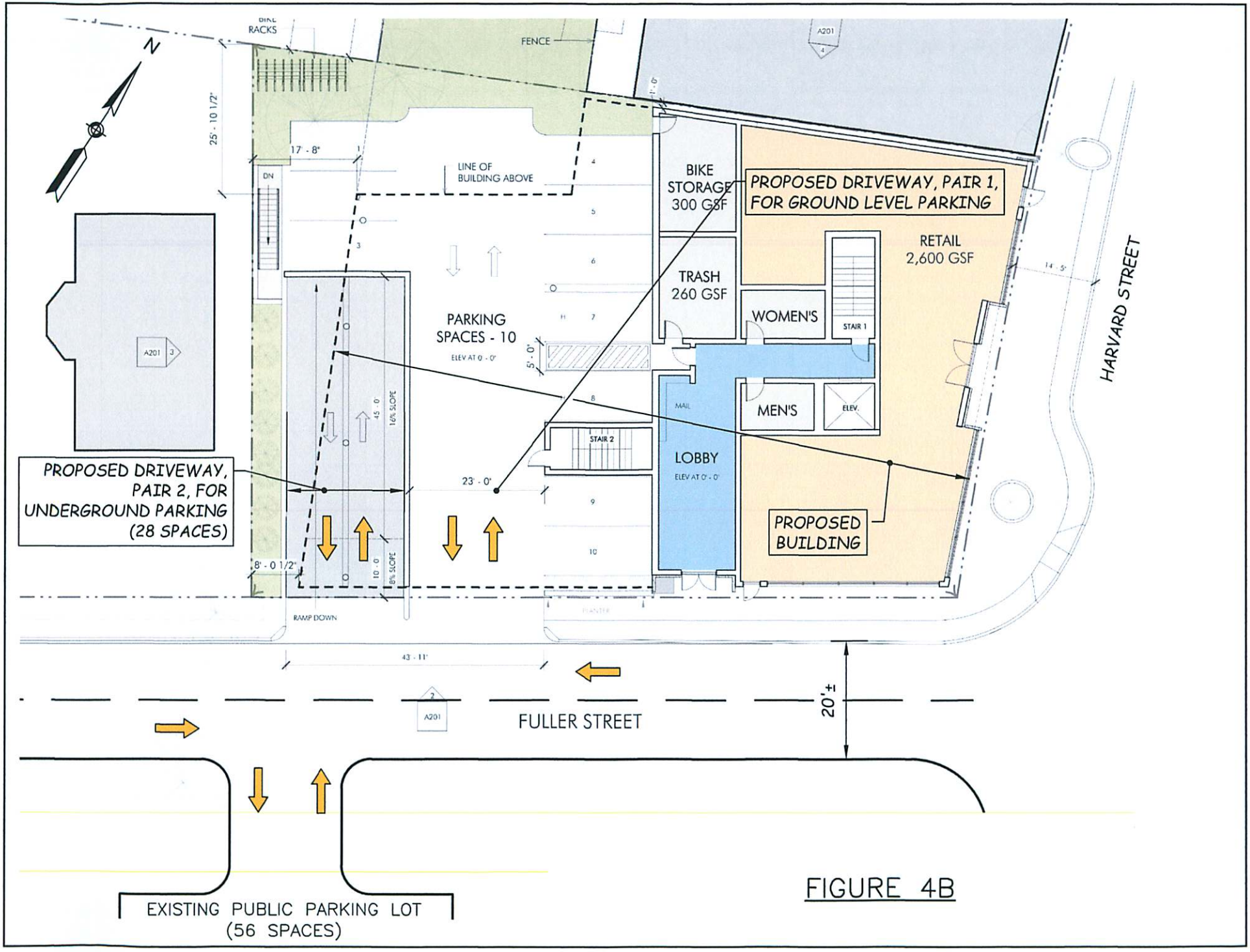
N
BIKE RACKS
FENCE
A201
25' - 10 1/2"
17' - 8"
DN
LINE OF BUILDING ABOVE
BIKE STORAGE 300 GSF
PROPOSED DRIVEWAY, PAIR 1, FOR GROUND LEVEL PARKING
RETAIL 2,600 GSF
TRASH 260 GSF
WOMEN'S
STAIR 1
PARKING SPACES - 10
ELEV AT 0' - 0"
5' - 0"
MEN'S
ELEV.
MAIL
STAIR 2
LOBBY
ELEV AT 0' - 0"
HARVARD STREET
14' - 5"
PROPOSED DRIVEWAY, PAIR 2, FOR UNDERGROUND PARKING (28 SPACES)
45' - 0"
16% SLOPE
23' - 0"
PROPOSED BUILDING
8' - 0 1/2"
10' - 0"
8% SLOPE
RAMP DOWN
43' - 11"
20'±
FULLER STREET
EXISTING PUBLIC PARKING LOT
(56 SPACES)

FIGURE 4B

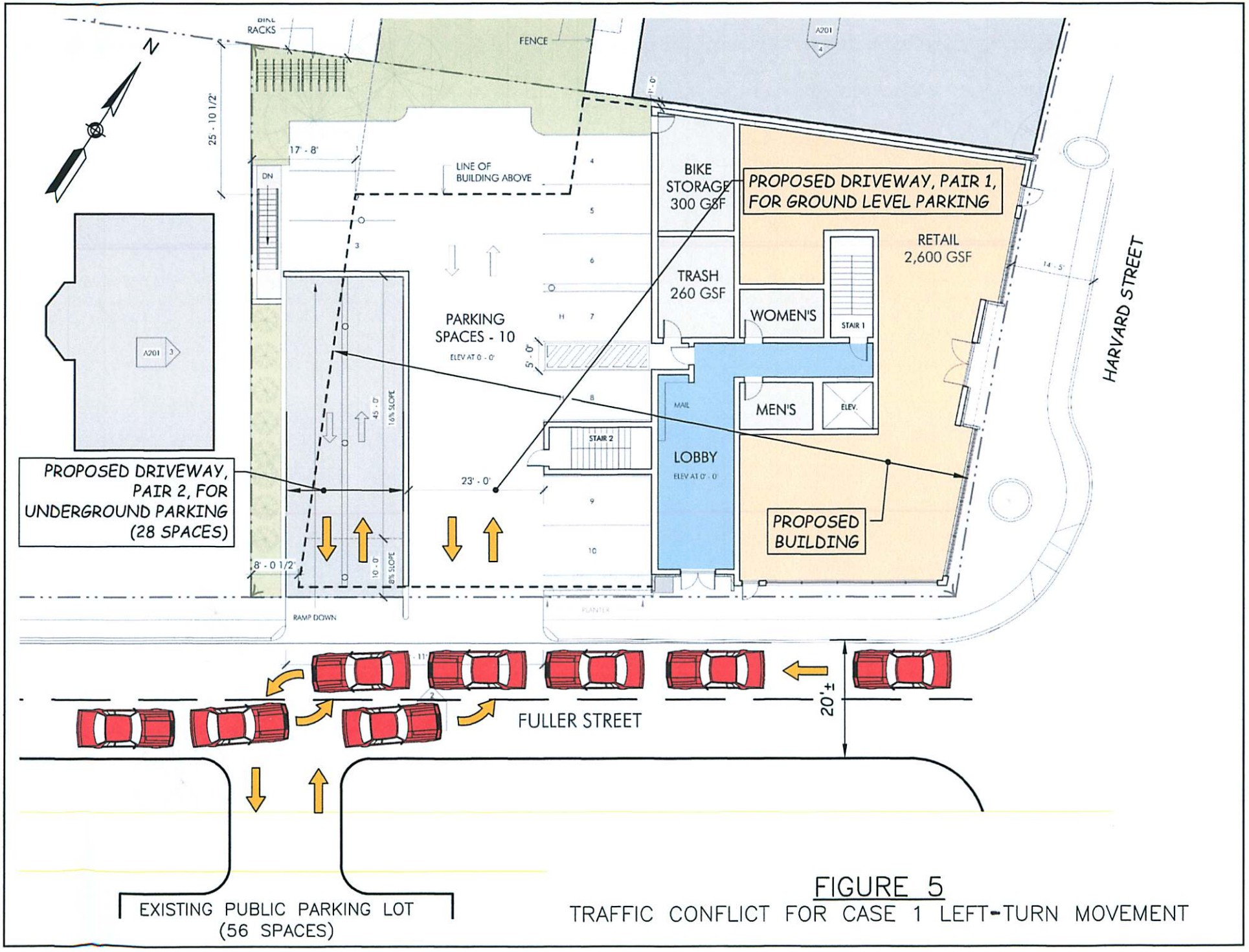

FIGURE 5

TRAFFIC CONFLICT FOR CASE 1 LEFT-TURN MOVEMENT

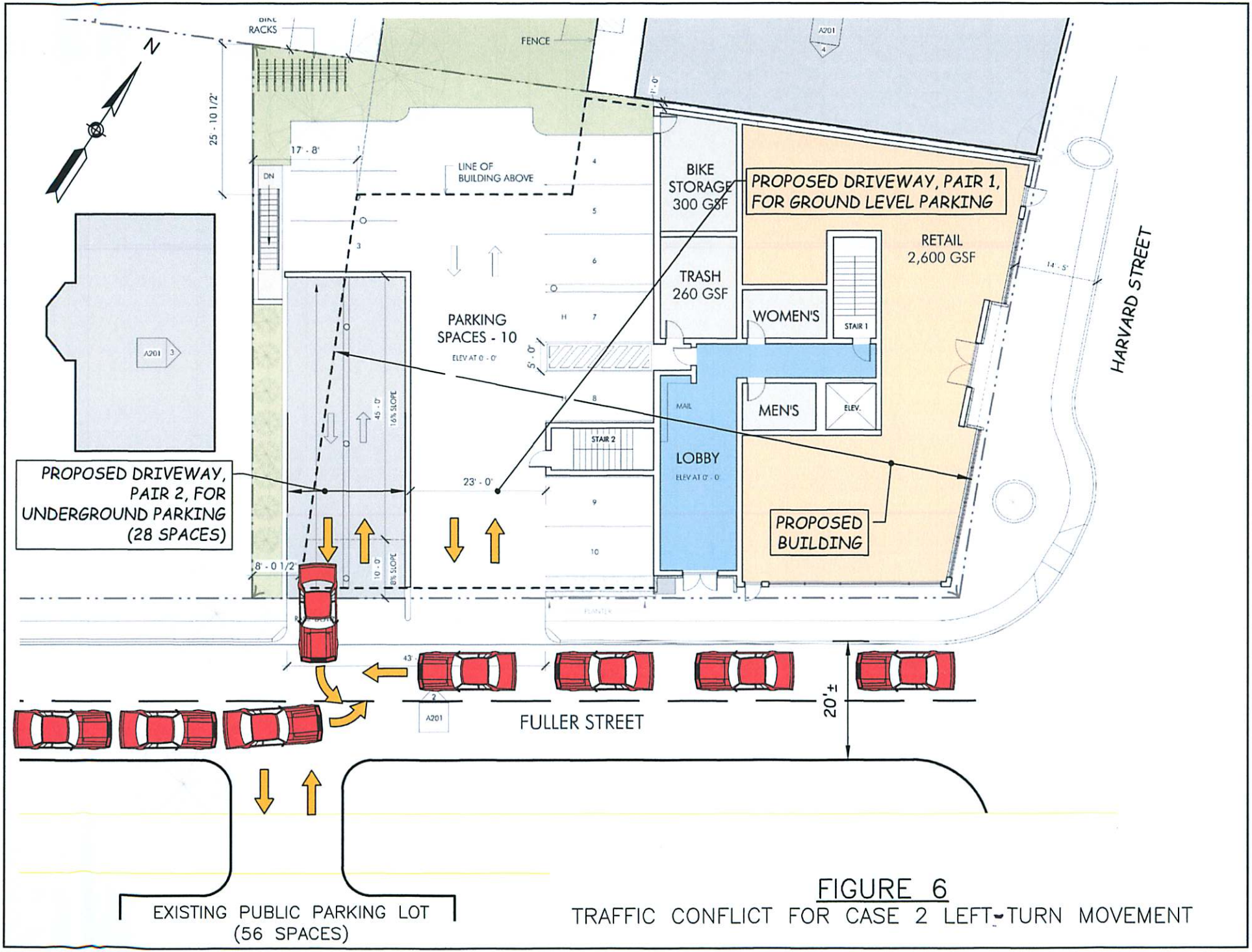

FIGURE 6

TRAFFIC CONFLICT FOR CASE 2 LEFT-TURN MOVEMENT

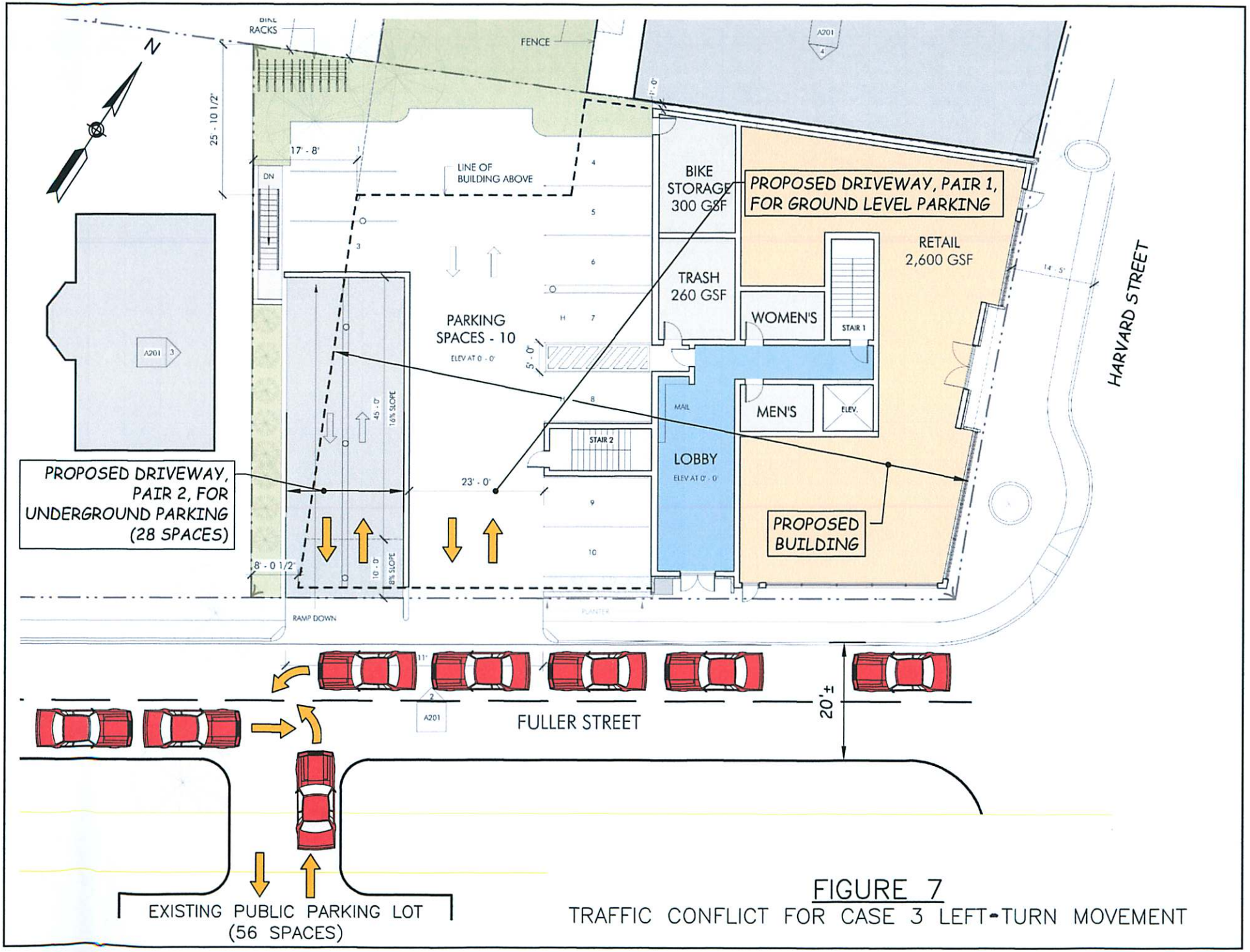

FIGURE 7

TRAFFIC CONFLICT FOR CASE 3 LEFT-TURN MOVEMENT

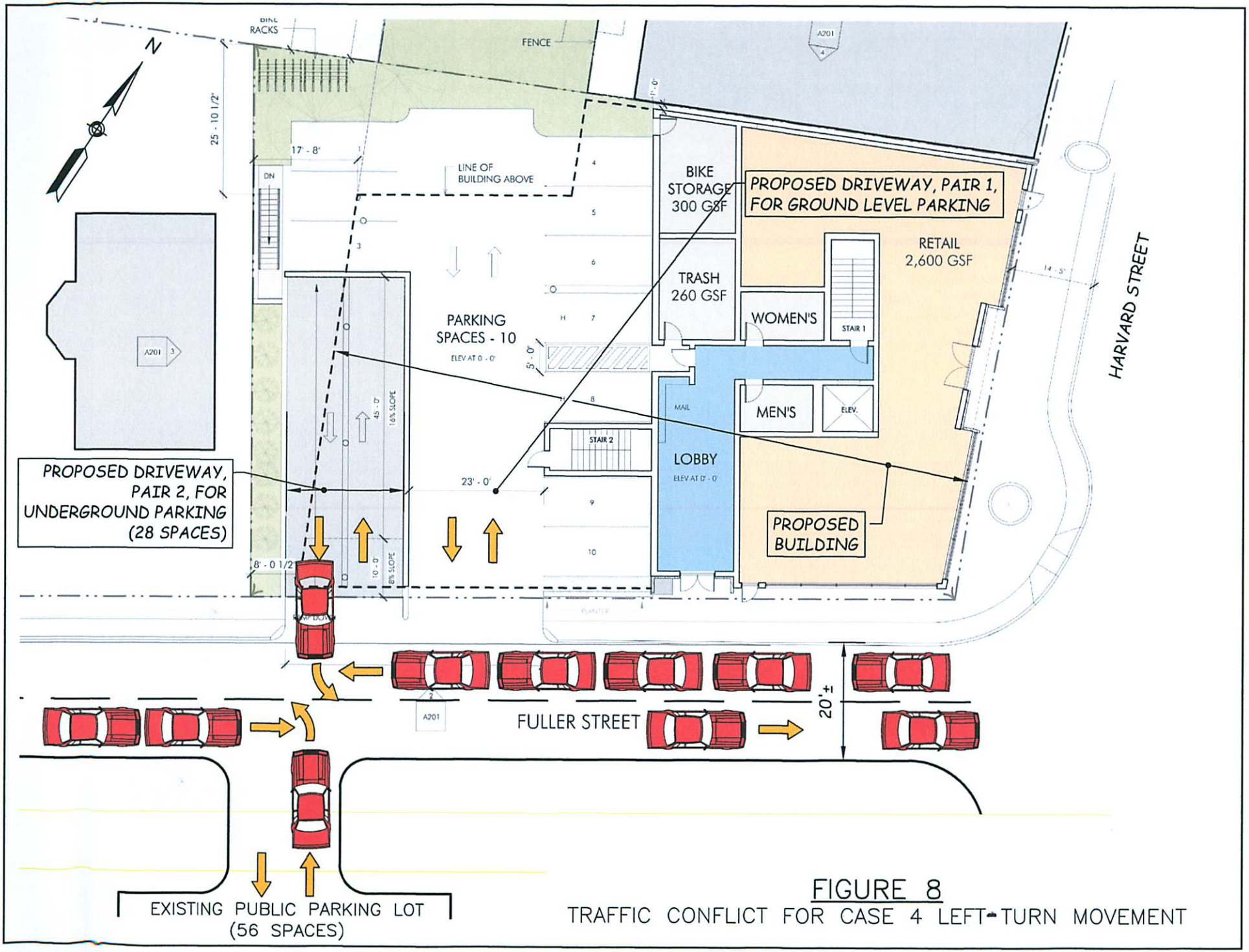

FIGURE 8

TRAFFIC CONFLICT FOR CASE 4 LEFT-TURN MOVEMENT